Washington State Board of Health
July 9, 2003
School Environmental Health Rule Review

Background & Summary

The State Board of Health has received extensive public testimony from parents, teachers, and students regarding school indoor air quality concerns at Cle Elum-Roslyn schools. At its October 2002 meeting, the Board also heard presentations on school indoor air quality from state and local health jurisdiction (LHJ) representatives, the Office of the Superintendent of Public Instruction (OSPI), school district representatives, and others.

At its January 8, 2003 SBOH meeting, the Board requested that staff prepare and submit a rule review document by July 2003 that included the following elements:

1. Review of WAC 246-366 with respect to results achieved and outcome measures.
2. Review of WAC 246-366 and other relevant rules with respect to identification of a responsible party during construction and capital improvement projects.
3. The appropriateness and practicality of plan review requirements and the pre-occupancy review process for new school construction or for school remodeling projects.
4. The presence and usefulness of communication criteria related to health related school closures and remediation actions.
5. The frequency and scope of inspections.
6. A timeline and outline for any rule updates or revisions recommended in the rule review.

Board staff used past research, including "Survey of Four Local Health Department and School District Responses to School Indoor Air Quality Complaints," a "Summary of recommendations regarding how to improve the public health and school systems' responses to school IAQ problems," and a 1998 Department of Health (DOH) review of WAC 246-366. Board staff obtained additional input, via e-mail and at a March 24, 2003 meeting, from a variety of individuals and organizations involved in school environmental health issues, including school district and local health department staff.

Public Comments on the Draft Rule Review

Board staff circulated a draft of this rule review for comments. Summaries of the comments that were received appear in boxes following the related sections of the document. A letter identifies the commenter(s):

A: Jane Irwin, Risk Consultant
B: Jim Kerns, Educational Service District 101
C: Paul Clark, Moses Lake School District
D: Denise Stiffarm, Legal Counsel, Pierce County School Coalition and King County School Coalition (identical comments received from the coalitions)

The DOH rule review and everyone who provided input, except Spokane Regional Health Department staff, agreed that WAC 246-366 should be revised. Input on when SBOH should revise the rule varied. Given that rule revisions generally take at least a year, rule making should begin as soon as possible. Board and DOH staff most likely be the lead staff on the rule revision are currently involved in other extensive rule revisions. Staff therefore recommends that the revision of WAC 246-366 begin in July 2004, when completion of other rule revisions is expected. Additional findings and recommendations based on research and input received are summarized below. Relevant policies of other states are listed at the end of each section to give Washington's policies a national context.

Consideration will also need to be given to funding mechanisms. Adequate funding is necessary to fully implement current policies and will be necessary to implement policy recommendations listed below. Most LHJ and school district budgets are shrinking, while public expectation of services are not. Additional funding sources are needed in order to construct, oversee construction, maintain, and ensure through inspection that school facilities are healthy and safe environments.

A. Assistance should be given to school districts to reprioritize current expenditures of general fund and bond monies in order to ensure through measurable means that all new construction, renovations, or alterations of school facilities adhere not only to building codes but also health and safety standards.

Recommendations

1. Direct the SBOH Executive Director to initiate rule making for Chapter 246-366 WAC by July 2004 to clarify vague language and requirements by adding specific indoor air quality standards, and update references to other rules and to guidelines.

2. Recommend DOH and OSPI include in their next edition of the *Health and Safety Guide for K-12 Schools in Washington*[*]*:*
   - Communication criteria regarding health-related school closures and remediation actions
   - Communication guidance and plans for crisis and routine communication between school district and local health jurisdiction staff, and students, parents, teachers, and community members.

3. Recommend that DOH and OSPI convene a workgroup made up of representatives of local health jurisdictions, DOH, OSPI, school boards, school districts, administrators, facility maintenance operators, architects, students, parents, teachers and other interested and effected parties to:
   - Promote use of the *Health and Safety Guide for K-12 Schools in Washington* and other school environmental health best practices.

[*] The *Health and Safety Guide for K-12 Schools in Washington* was jointly prepared by DOH and OSPI in accordance with WAC 246-366-140, and developed by the Washington State School Facilities Health and Safety Advisory Committee.

- Identify resources to improve local health jurisdiction and school staff expertise in improving school environmental health
- Identify funding mechanisms that encourage schools be designed, built, maintained, operated and inspected with the goal of improved environmental health.

A. The workgroup should also fund a method to compile information to help measure the effectiveness of health and safety efforts on asthma rates, absenteeism, etc.

B. Communication criteria listed above would fit nicely into the *Health and Safety Guide for K-12 Schools in Washington.* You write them and I'll get them into the guide.

Rule Review Findings

1. Review of WAC 246-366 with respect to results achieved and outcome measures:

SBOH policy:
WAC 246-366 states that the WAC establishes minimum environmental standards for educational facilities, but does not clearly state measurable outcomes or standards. The rules are therefore difficult for many LHJs and school districts to use to achieve the desired result of improved school environmental health, either through education or enforcement.

Examples of vague language include "buildings must be kept clean and in good repair" (WAC 246-366-050), "all rooms used by students or staff shall be kept reasonably free of all objectionable odor, excessive heat or condensation" and "all sources producing air contaminants of public health importance shall be controlled." (WAC 246-366-080). One of the few specific standards is noise control, with maximum noise exposure levels and new construction maximum ambient noise levels for shop classes (WAC 246-366-110).

Policy recommendation:
Revise WAC 246-366 to include clear standards, with specific outcome measures and testing parameters.

Process recommendation:
Unresolved discussions that occurred during the rule review and should be addressed in a rule revision process include:

- Whether standards should be in rule or a guidance document.
- What standards should be considered in developing WAC 246-366 standards: ASHRAE, WISHA, Everett School District IAQ Program (attached), and/or other standards.
- Whether standards should consider that exposure to pollutants results in higher body burdens in primary and secondary school children than in adults, and therefore standards developed for adults may not be adequate to protect children's health.

Other states' policies:
Requirements that schools adopt maintenance plans or specific maintenance practices:

- Minnesota education law requires the state to develop written guidance for school districts in establishing health and safety programs, which includes an IAQ management plan.
- New York education law requires the development of a preventive maintenance plan with an IAQ component, but leaves the details to the school district.

A. The rule revision process should also decide what pollutants and levels impact student health, such as relative humidity, carbon dioxide, carbon monoxide, volatile organic chemicals, small and large particulates, ozone, radon, mold, and lead. HVAC maintenance and inspection need to be specifically addressed.

B. The concept of more stringent standards for children has been around for years. Problems include possible conflicts with OSHA/WISHA regulations, and the need to provide evidence that would justify the stricter standards.

C. Current OSHA and EPA standards are not adequate for elementary grades student population.

D. Specific standards remain static once adopted and do not adapt to changing circumstances or technologies. In some cases, an arbitrary standard may not be appropriate, may be subjective, and may not reflect different methods available to meet requirements. The *Health and Safety Guide for K-12 Schools in Washington* should continue to be used to delineate school environmental health standards and practices. Unlike regulations, it is a living document, and recognizes differences in program needs as well as specific regional concerns.

2. Review of WAC 246-366 and other relevant rules with respect to identification of a responsible party during construction and capital improvement projects.

SBOH, SBOE, school district, and OSPI policies:
WAC 246-366 does not identify responsible parties during construction and capital improvement projects. WAC 246-366 does require that before construction begins, boards of education are responsible for obtaining written approval from the LHJ regarding the development site, and construction plans. After construction, LHJs are responsible for preoccupancy inspection to determine conformity with the approved plans.

The State Board of Education (SBOE) is responsible for the administration, control, terms, conditions and disbursements of school construction funding (RCW 28A.525.020) and for modernization of existing school facilities (RCW 28A.525.030). SBOE adopts rules for management techniques such as value engineering, constructability reviews, building commissioning, and construction management (RCW 28A.525.090).

With school facilities greater than 50,000 square feet, school districts are responsible for preparing value-engineering studies, complete constructability reviews, and perform

building commissioning. These processes have the goal of identifying and reducing design and construction deficiencies. With smaller construction projects and portables these processes are not required. (WAC 180-27-080)

The superintendent of public instruction and school districts are responsible for conducting reviews and evaluations of new school sites that consider students' health and safety (WAC 180-26-020).

Recommendations to OSPI:
The Attorney General of Washington found a variety of significant construction deficiencies that impact health and safety in the 10 schools it investigated, according to "Administrative Recommendations: Investigation of School Construction and Electrical Licensing Activities (Eastern Washington and Clark County)," Sept 25, 1996, available at http://www.wa.gov/ago/pubs/construction/report_construct.html). The Attorney General's Office recommended that:

- OSPI should establish a single entity responsible for monitoring architects' compliance with school construction plan revisions and to serve as a clearinghouse for all agencies involved in inspecting school facilities.
- Require that school districts hire an experienced owner's project representative (OPR) to remain on-site during construction and capital improvement projects, and for 3-6 months after construction is finished. A qualified, experienced and knowledgeable OPR can represent the school district's interests and ensure that the contractor and sub-contractors complete their work to code.

Having a single entity or individual, such as an OPR, responsible for a school construction project is important for improving communication between school district, LHJ and other staff involved in the projects. Larger school districts have construction supervisors who perform building commissioning, who are more likely to communicate with LHJs early enough in the construction process to address problems. For example, Spokane Regional Health District school program staff provides architects and schools with regulations and checklists, and receive plans and construction minutes early in the process.

Implementation of the Attorney General's recommendations, listed above, should be encouraged. School construction project funding mechanisms, value engineering studies, constructability reviews, and building commissioning processes should also be encouraged to ensure schools are build without deficiencies.

Other states' policies:
Design and construction standards or requirements that promote good IAQ:

- Minnesota education law establishes ventilation and commissioning requirements for new school construction projects, and a state review process.
- New York education law establishes requirements regarding IAQ management during construction and renovation, ventilation, and materials and furnishings.
- West Virginia education regulations establish new construction requirements relating to ventilation, material selection and radon.
- Massachusetts education regulations establish requirements relating to IAQ management during construction.

(From *Healthier Schools: A Review of State Policies For Improving Indoor Air Quality*, Environmental Law Institute, 2002. Available at www.eli.org)

A. Owner Project Representatives are driven to give school districts projects done on time and on budget. Their first allegiance is not to health and safety standards. A percent of bond monies should go to OSPI to fund independent inspectors who oversee and commission all major projects before occupancy and review them 8 months later.

   Instead of saying "qualified, experienced and knowledgeable" OPRs, set qualifications and certify them with a test.
   Updating codes for school construction, holding architects responsible, levying fines for deficiencies, and funding independent certified inspectors may remove the need for multiple review processes.

D. We disagree with the two Attorney General's recommendations listed above. They would create additional and unnecessary bureaucratic layer, and in some ways redundant to existing practices. Having a single entity at OSPI monitoring school construction would only serve to backlog school construction and diminish local control. OSPI already requires school districts to follow strict procedures, with several reporting benchmarks ("D Process" in WAC 180-29). OPR's could be an effective resource for districts without in-house facilities staff experienced in school construction, but it should not be a requirement. Many school districts employ skilled staff who are involved in school construction projects from start to finish, and are the most cost-effective means of providing oversight and communication between the district and reviewing entities.

3. The appropriateness and practicality of plan review requirements and the pre-occupancy review process for new school construction or for school remodeling projects.

SBOH policy:
WAC 246-366-040 requires that the "board of education, before constructing a new facility, or making any addition to or major alteration of an existing facility" shall submit final plans and specifications to the local health officer and obtain any required changes and written approval. Preoccupancy inspections are required of new construction to determine conformity with the approved plans and specifications.

Policy recommendation:
The current WAC 246-366-040 plan review and preoccupancy requirements could be improved by including additional minimum standards regarding timing and content of plan reviews and preoccupancy inspections.

Process recommendation:
The plan review and preoccupancy requirements seem appropriate and practical for the LHJs with adequately trained staff, but may not be appropriate or practical for LHJs without the ability or demand for staff trained in plan reviews. A representative of a smaller LHJ suggested developing regional expertise, since they didn't do plan reviews and preoccupancy inspections often enough to maintain adequately trained staff.

A rule revision process should address how to best encourage practices that improve the value of plan review and preoccupancy processes:

- Early and frequent communications among LHJ staff, school staff, architects, building departments. As recommended by the Attorney General's Office, school districts should hire an experienced owner's project representative who can work with the local health department during the site and plan reviews and pre-occupancy inspections to ensure the school is located and built to provide the safest and healthiest learning environment.
- Development and dissemination of checklists used during plan reviews and preoccupancy.
- Adequate training of LHJ staff to do plan reviews and pre-occupancy checklists. When staffs aren't adequately trained, LHJs can contract with outside professionals to do plan reviews and preoccupancy inspections. The responsibility for the reviews and inspections remains with the LHJ. Local boards of health set plan review and preoccupancy inspection fees "not to exceed the cost of providing such service" [RCW 70.05.060 (7)]. Fees are collected by the LHJ from schools provided the services [RCW 70.05.070 (7)]. Given the direction of many LHJ's toward "fee for service" funding, staff levels and training may be a function of fees collected as well as the number of schools needing reviews.

A. School districts should estimate health and safety fees, based on a percentage of the project cost or size, and include these fees in the budget and/or bond building process. These funds should incorporate training for school district and LHJ staff.

   Districts should ensure through measurable means that adequate HVAC maintenance, cleaning standards, and thorough periodic safety inspections are adhered to. There's no use in specifying a particular HVAC standard if no one can maintain it.

B. Developing regional expertise could become school district function if funded. Development and dissemination of checklists used during plan reviews and preoccupancy should be done by all school districts and LHJ's statewide.

D. The Board should consider mechanisms to enable school districts to effectively manage efficient compliance with the school environmental health standards. As suggested in the rule review, the Board could create a standard checklist delineating the environmental health requirements, which school districts could use to provide LHJs with material. The Board should consider enabling school districts to provide self-certification of some aspects of the inspection process. Providing school districts with optional compliance tools should be a priority in the rule review.

4. The presence and usefulness of communication criteria related to health related school closures and remediation actions.

SBOH policy:
Communication criteria for health related school closures and remediation actions are not included in WAC 246-366 or in the DOH/OSPI *Health and Safety Guide for K-12 Schools in Washington*.

Policy recommendation:
Include in WAC 246-366 or statute direction to develop explicit communication criteria for health related school closures and remediation actions, and to develop crisis and routine communication plans.

Process recommendations:
Communication guidance and plans are needed for how and when LHJs and school districts should communicate with each other and with students, parents, teachers, and other community members about school environmental health issues. Communication plans for crisis and routine communications would be useful to promote collaboration, avoid polarization and distrust, reduce anxiety and stress, and effectively prevent and respond to school environmental health risks.

The EPA Tools for Schools (TfS) communication recommendations for IAQ management (routine) and for IAQ problem solving (crises) may be useful in developing guidance, which could be included in a future edition of the DOH/OSPI *Health and Safety Guide for K-12 Schools in Washington*. Everett School District #2 received an award from EPA for its use of the TfS materials to resolve and identify IAQ problems. It used TfS materials to gather and share asthma and IAQ data with the public and school employees, an important step in maintaining the trust of the community.

A. Everett's plan is great—it encompasses everything from the EPA and takes a stand on measurements. The plan should include methods used to share information and an explicit process for reviewing and updating as new medical information on student health becomes evident.

5. The frequency and scope of inspections.

The Office of the Attorney General of Washington found a variety of significant construction deficiencies that impact health and safety in the 10 schools it investigated. It also found on-going maintenance problems with ventilating, heating and air conditioning systems, and recommended establishing more rigorous inspection, monitoring and training systems to ensure compliance with code regulations and strict enforcement of the law. ["Administrative Recommendations: Investigation of School Construction and Electrical Licensing Activities (Eastern Washington and Clark County)," Sept 25, 1996, available at http://www.wa.gov/ago/pubs/construction/report_construct.html.]

A 1996 DOH survey of LHJs found that approximately 25 percent of schools in the state are never given a comprehensive inspection that addressed all the elements included in WAC 246-366. The DOH survey also found that designated school program staff made up a total of 7 FTEs for the 28 LHJs who responded to the survey.

Inspection frequency:
SBOH policy:
The WAC 246-366-040 requirement of "periodic inspections" is so vague that it becomes unenforceable.

Policy recommendation:
The Board might want to consider revising the WAC to require post occupancy inspections annually, or every 1 to 3 years with schools' self-inspection during years the LHJ doesn't inspect the school.

The Washington State School Facilities Health and Safety Advisory Committee (HSAC), tasked with developing the *Health and Safety Guide for K-12 Schools in Washington,* recommended either annual inspections, or inspections every two to three years with some additional activities in other years.

Requiring annual inspections by LHJs threatens Spokane Regional Health District's school program that rewards schools with minimal or no deficiencies by allowing them to do self inspections 2 out of 3 years. There is no known public health rationale for requiring all schools to be inspected every year.

Other states' policies:
- New York education law and regulations require schools to conduct comprehensive annual and 5-year facility inspections.
- Ohio laws require local health departments to conduct semiannual sanitary inspections of all schools.
- North Carolina health law requires annual inspections by the state health department, which has authorized local health departments to do the inspections.
- Maine education law and regulations require school districts to conduct annual inspections.

(From *Healthier Schools: A Review of State Policies For Improving Indoor Air Quality*, Environmental Law Institute, 2002. Available at www.eli.org)

Inspection scope:
SBOH policies:
Preoccupancy inspections are required to determine conformity with approved plans and specifications [WAC 246-366-040 (2)(a)]. The post occupancy inspection requirements include reviewing building requirements, plumbing, safe facilities and practices, ventilation, heating, temperature control, and sound control [WAC 246-366-040 (2)(b)].

Policy recommendations:
The scope of preoccupancy inspections is adequate, but this inspection's effectiveness is based on the plans and specifications being adequately reviewed and required changes being made to the plans.
The scope of the "periodic inspections" is sufficiently broad. Some sections are redundant with other codes, and should be rewritten to reference the other codes. Building codes stop at occupancy, and inspection of the functioning heating and ventilation systems while the building is occupied is of value.

Other states' policies:

- New York education law requires 5-year inspections include a building condition survey conducted by a team with at least one architect or engineer. The facility survey assesses the need for repair, maintenance or replacement of all major building systems. It also assesses appearance, cleanliness, acoustics, lighting quality, thermal comfort, humidity, ventilation, and space adequacy. New York education law also authorizes financial aid for schools to conduct the surveys. New York schools' annual inspections are a recheck of items covered by the 5-year inspection. Inspection reports must indicate if more frequent inspections and repairs are necessary to protect students and staff health and safety. A team that includes a code enforcement official, the school district director of facilities, and a member of the school health and safety committee conducts the inspections.
- North Carolina health law requires annual inspections of general neatness and cleanliness, adequacy of ventilation, facility surfaces and fixtures kept in good repair, and the use and storage of pesticides and other toxic materials.
- Ohio health law inspection requirements are not specific, but refer to abating all nuisances, correcting all conditions detrimental to health or well-being found on school property.
- Maine laws and regulations require annual inspections of HVAC systems and school facilities' sanitary conditions.

(From *Healthier Schools: A Review of State Policies For Improving Indoor Air Quality*, Environmental Law Institute, 2002. Available at www.eli.org)

A. Inspections need to specifically include HVAC systems. Certification of health and safety inspectors should be considered. Inspections should occur at least every 3 years.

B. Building codes apply throughout the life of the building, and do not stop at occupancy.

D. Any amendment to the frequency and scope of inspections should include provisions for self-inspections and certifications.

6. A timeline and outline for any rule updates or revisions recommended in the rule review.

WAC 246-366 was last revised in 1991, and only the noise levels were revised then. In 1998 the Department of Health recommended that the State Board of Health amend the rule. Most stakeholders agree that the current rule is in need of improvement.

Policy recommendations:
WAC 246-366 should be revised, and the rule revision process should begin as soon as possible.

WAC 246-366 rule revision timeline:
Direct SBOH Executive Director to initiate rule making for the entire Chapter 246-366 WAC as soon as possible. Board and DOH staff most likely be the lead staff on the rule revision are currently involved in other extensive rule revisions. It is therefore

recommended that the revision of WAC 246-366 begin in July 2004, when completion of other rule revisions is expected. An in-depth review of IAQ standards, and their costs and benefits is needed. Vague language should be clarified, and specific standards, testing parameters, and communication plans and criteria should be added. Decisions about what the standards and testing parameters should be, and what to place in advisory-only guidance, should occur during the rule revision process.

Rule revisions generally take at least a year. Depending on the level of staffing assigned to the rule revision, it could take as long as three years.

<u>WAC 246-366 rule revision outline:</u>
The rule revision process should include consideration of:

- Adding clear requirements regarding timing and content of plan reviews, preoccupancy inspections, and routine inspections.
- Direction to develop explicit communication criteria for health related school closures and remediation actions, and to develop crisis and routine communication plans should be included in WAC 246-366.
- Combining the heating, ventilation and temperature sections (WAC 246-366-080, -090, and –100) into one IAQ section. Addition of clear standards regarding temperature, humidity, ventilation, and contaminants such as particulates, volatile organic compounds, and carbon dioxide.
- Rewriting of safety section (WAC 246-366-140), referencing *Health and Safety Guide for K-12 Schools in Washington.*
- Rewriting of other sections with references to relevant regulations, such as plumbing code, building code, food safety and drinking water regulations.
- Updating of any out of date references, such as lighting and noise levels.
- Clarifying vague language.

A. Clear standards should specify the particulate sizes of concern, and also address carbon monoxide, ozone, radon, mold and lead.

B. WAC 246-366 should be revised in coordination with OSPI.

C. Particulate loading in carpets is a major issue and might also be considered when developing standards.
Standards should be written in a functional test performance procedure format, as used in building commissioning process. This would enable more consistent use of the standards throughout the state, with less room for interpretation and need for training. The state could underwrite this commissioning process rather than only mandating it.